

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-143 (Cancelled).

144. (currently amended) A composition comprising a pre-selected metal nanoparticle bound to a synthetic an isolated peptide or a synthetic protein up to 20 amino acids in length which selectively binds to the pre-selected metal nanoparticle.

145-146. (canceled)

147. (currently amended) The composition of claim 1464, wherein the synthetic isolated peptide comprises a synthetic peptide which selectively nucleates the metal nanoparticles from a solution.

148. (currently amended) The composition of claim 147, further comprising a plurality of the metal nanoparticles and bound to a plurality of synthetic isolated peptides which selectively bind to the metal nanoparticles.

149. (Previously Presented) The composition of claim 148, wherein the nanoparticles are magnetic.

150. (Previously Presented) The composition of claim 144, wherein the metal nanoparticle comprises a metal alloy nanoparticle.

151. (Previously Presented) The composition of claim 150, wherein the metal alloy comprises a cobalt alloy.

152. (Previously Presented) The composition of claim 144, wherein the metal nanoparticle comprises a pure metal nanoparticle.

153. (currently amended) The composition of claim 152144, wherein the metal comprises bCo, CoPt, SmCo5, or FePt.

154. (Withdrawn-currently amended) A method of making the composition of claim 144, comprising:

providing the synthetic isolated peptide or the synthetic protein of up to 20 amino acids in length which selectively binds to the pre-selected metal nanoparticle; and

contacting the synthetic isolated peptide or the synthetic protein with one or more pre-selected metal precursors to nucleate the metal nanoparticle on the synthetic isolated peptide or the synthetic protein.

155. (Withdrawn) The method of claim 154, wherein the one or more metal precursors are provided in a solution.

156. (Withdrawn-currently amended) The method of claim 154, wherein the synthetic isolated peptide is provided and contacted with one or more metal precursors.

157. (canceled)

158. (new) The composition of claim 144, wherein the isolated peptide is between 7 and 20 amino acids in length.

159. (new) The method of claim 154, wherein the isolated peptide is between 7 and 20 amino acids in length.